IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 3673
	)	
KRISCH et al.	)	Examiner: ZENATI, AMAL A.
	)	
Serial No.: 10/562,166	)	Confirmation No.: 7662
	)	
Filed: June 5, 2006	)	
	)	
Atty. File No.: 5488-6	)	***Filed Electronically***
	)	

For: "ELECTROMECHANICAL LOCK CYLINDER"

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF ON APPEAL (37 CFR § 41.31)

Dear Sir:

This is an appeal under 37 CFR § 41.31 to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office from the final rejection of Claims 19-68 of the above-identified patent application. These claims were indicated as finally rejected in a Final Office Action dated September 2, 2009, and the Advisory Action dated November 17, 2009. Payment in the amount of $540 for the fee required under 37 CFR § 41.20(b)(2) is being submitted herewith via EFS-Web. A Notice of Appeal was filed on December 2, 2009, along with the Notice of Appeal fee specified in 37 CFR §41.20(b).

A Petition for one month extension of time has been filed concurrently herewith along with the requisite fees. Although Appellants believe the fees currently paid are correct and that no other fees are required to be paid, please charge any deficiency or credit any overpayment to Deposit Account No. 19-1970. Additionally, although Appellants believe that this Appeal Brief has been timely filed and no petitions for extension of time are required in connection with this filing, Appellants hereby petition for any extension of time deemed necessary.

A single copy of this Appeal Brief is being submitted pursuant to MPEP § 1205.02.

The structure of the Brief is as follows in accordance with 37 CFR §41.37(c):

I. Real Party in Interest

II. Related Appeals and Interferences

III. Status of Claims

IV. Status of Amendments

V. Summary of Claimed Subject Matter

VI. Grounds of Rejection to be Reviewed on Appeal

VII. Argument

VIII. Claims Appendix

IX. Evidence Appendix- None

X. Related Proceedings Appendix- None

I. REAL PARTY IN INTEREST

Inventors Krisch et al. assigned their entire rights, title, and interest in the patent application to Buga Technologies GmbH. A copy of this assignment document has been recorded under Reel/Frame 017723/0540. Buga Technologies GmbH subsequently assigned its rights, title, and interest in the patent application to HID GmbH. A copy of this assignment document has been recorded under Reel/Frame 023291/0729. HID GmbH subsequently assigned its rights, title, and interest in the patent application to Assa Abloy AB. A copy of this assignment document has been recorded under Reel/Frame 023291/0866. Assa Abloy AB is the current owner of the patent application and the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals, interferences or judicial proceedings related to this patent application.

III. STATUS OF CLAIMS

The status of the claims is as follows:

1. Claims canceled: 1-18.
2. Claims withdrawn from consideration but not cancelled: None.
3. Claims pending: 19-68.
4. Claims allowed: None.

5. Claims rejected: 19-68.

6. Claims objected to: None.

7. Claims appealed: 19-68.

Claims 19, 21, 22, 29, 35, 36, 37, 38, 39, 53-55, 62, and 68 stand rejected under 35 U.S.C. § 102(b).

Claims 20, 23-28, 30-34, 40-52, 56-61, and 63-67 stand rejected under 35 U.S.C. § 103(a).

The claims at issue (*i.e.*, claims 19-68) are set forth in the CLAIMS APPENDIX.

IV. STATUS OF AMENDMENTS

An Amendment and Response that was filed on October 30, 2009 has been entered. An Advisory Action was mailed on November 17, 2009, indicating that there is at least one actual issue for appeal. The Advisory Action mailed on November 17, 2009, also indicated that previous rejections under 35 U.S.C. § 112, second paragraph, were overcome by the Amendment and Response filed on October 30, 2009. A Notice of Appeal was filed on December 2, 2009. In accordance with 37 C.F.R. §41.37(c)(2), this brief does not include any new or non-admitted amendment.

V. SUMMARY OF CLAIMED SUBJECT MATTER (37 CFR §41.37(c)(1)(v))

The currently pending independent claims 19, 23, 36, 40, 53, and 56, recited in the CLAIMS APPENDIX hereto, are directed to an electromechanical lock cylinder. *See* English Translation of Specification filed June 5, 2006, ("English Specification") page 1, ¶ 1 thru page 3, ¶ 1.

One embodiment, which is the subject of independent claim 1, is directed to an electromechanical lock cylinder that cooperates with evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles (*See* English Specification page 1, ¶ 2), at least one of which comprises either a lock core, capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob (*See* English Specification page 1, ¶¶ 1 and 2), wherein the lock core or knob shaft cooperates with a lock tab (*See* English Specification page 1, ¶¶ 1 and 3), which operates, in particular, a bolt or a latch of a door lock (*See* English Specification page1, ¶ 1), and, with a fitting key or access

authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab (*See* English Specification page 1, ¶ 1), whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or the knob shaft (*See* English Specification page 3, ¶ 2), wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it (*See* English Specification page 4, ¶ 1), and includes an eccentric that is rotatable between a first and second position (*See* English Specification page 4, ¶¶ 3 and 4) such that when the eccentric is in the first position, a driver in communication therewith is in a rest position, and when the eccentric is rotated from the first position to the second position, the driver is moved in a direction substantially perpendicular to a long axis of the knob shaft or lock core into an operating position (*See* English Specification page 5, ¶¶ 1 and 2; page 6, ¶ 1; page 8, ¶ 4; page 10, ¶ 1; and Figs. 1, 2, and 4), in which the driver engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged (*See* English Specification page 10, ¶¶ 1 and 2; and Figs. 1, 2, and 4).

Another embodiment, which is the subject of independent claim 23, is directed to an electromechanical lock cylinder that cooperates with evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles (*See* English Specification page 1, ¶ 2), at least one of which comprises either a lock core, which is capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob (*See* English Specification page 1, ¶¶ 1 and 2), wherein the lock core or knob shaft cooperates with a lock tab (*See* English Specification page 1, ¶¶ 1 and 3), which operates, in particular, a bolt or a latch of a door lock (*See* English Specification page1, ¶ 1), and, with a fitting key or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab (*See* English Specification page 1, ¶ 1), whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or the knob shaft (*See* English Specification page 3, ¶ 2), wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it (*See* English Specification page 4, ¶ 1), and includes an eccentric, which moves a driver included in the blocking or coupling element back and forth between the rest position and the operating position (*See* English Specification page 4, ¶¶

3 and 4), in which it engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged (*See* English Specification page 10, ¶¶ 1 and 2; and Figs. 1, 2, and 4), wherein the eccentric has a pin arranged eccentrically around a motor shaft, which engages in a groove extending across a lift movement of the driver and perpendicular to the motor shaft, whose position and length are dimensioned, so that a rotary movement from the rest position into the operating position is only possible in one direction of rotation, and the rotational movement from the operating position into the rest position of the driver is only possible in the opposite direction of rotation (*See* English Specification page 5, ¶ 2).

Another embodiment, which is the subject of independent claim 36, is directed to an electromechanical lock cylinder, which cooperates with an evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles (*See* English Specification page 1, ¶ 2) in which at least one of a lock core and/or knob shaft operatively associated with the cylindrical receptacles cooperate with a lock tab (*See* English Specification page 1, ¶¶ 1, 2, and 3), and especially operate a bolt or latch of a door lock (*See* English Specification page1, ¶ 1), and with a fitting key and/or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key and/or knob and the lock tab (*See* English Specification page 1, ¶ 1), whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core and the knob shaft (*See* English Specification page 3, ¶ 2), wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it (*See* English Specification page 4, ¶ 1), and also includes an eccentric that is rotatable between a first and second position (*See* English Specification page 4, ¶¶ 3 and 4) such that when the eccentric is in the first position, a driver in communication therewith is in a rest position, and when the eccentric is rotated from the first position to the second position, the driver is moved in a direction substantially perpendicular to a long axis of either the lock core or knob shaft into an operating position (*See* English Specification page 5, ¶¶ 1 and 2; page 6, ¶ 1; page 8, ¶ 4; page 10, ¶ 1; and Figs. 1, 2, and 4), in which the driver engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged (*See* English Specification page 10, ¶¶ 1 and 2; and Figs. 1, 2, and 4).

Another embodiment, which is the subject of independent claim 40, is directed to an electromechanical lock cylinder, which cooperates with an evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles (*See* English Specification page 1, ¶ 2), in which, on one side of the housing, a lock core, which is capable of being operated by a key (*See* English Specification page 1, ¶¶ 1 and 2), and, on the opposite side, a knob shaft, which is connected to rotate in unison with a knob (*See* English Specification page 1, ¶¶ 1 and 2), are mounted to rotate, in which the lock core and/or knob shaft cooperate with a lock tab (*See* English Specification page 1, ¶¶ 1 and 3), and especially operate a bolt or latch of a door lock (*See* English Specification page1, ¶ 1), and with a fitting key and/or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key and/or knob and the lock tab (*See* English Specification page 1, ¶ 1), whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core and the knob shaft (*See* English Specification page 3, ¶ 2), wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it (*See* English Specification page 4, ¶ 1), and also includes an eccentric, which moves a driver back and forth between the rest position and the operating position (*See* English Specification page 4, ¶¶ 3 and 4), in which it engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged (*See* English Specification page 10, ¶¶ 1 and 2; and Figs. 1, 2, and 4), wherein the eccentric has a pin arranged eccentrically around a motor shaft, which engages in a groove extending across the lift movement of the driver and perpendicular to the motor shaft, whose position and length are dimensioned, so that a rotary movement from the rest position into the operating position is only possible in one direction of rotation, and the rotational movement from the operating position into the rest position of the driver is only possible in the opposite direction of rotation (*See* English Specification page 5, ¶ 2).

Another embodiment, which is the subject of independent 53, is directed to an electromechanical lock cylinder, which cooperates with evaluation electronics to recognize an access authorization, comprising:

a cylindrical receptacle (*See* English Specification page 1, ¶ 1 and 2; page 3, ¶ 3), in which either a lock core, which is capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob, is mounted to rotate, in which the

lock core or the knob shaft cooperate with a lock tab (*See* English Specification page 1, ¶¶ 1, 2, and 3), which operates, in particular, a bolt or latch of a door lock (*See* English Specification page1, ¶ 1), and, with a fitting key and/or access authorization, electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab (*See* English Specification page 1, ¶ 1), whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or to the knob shaft (*See* English Specification page 3, ¶ 2), wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it (*See* English Specification page 4, ¶ 1), and also includes an eccentric that is rotatable between a first and second position (*See* English Specification page 4, ¶¶ 3 and 4) such that when the eccentric is in the first position, a driver in communication therewith is in a rest position, and when the eccentric is rotated from the first position to the second position, the driver is moved in a direction substantially perpendicular to a long axis of the lock core or knob shaft into an operating position (*See* English Specification page 5, ¶¶ 1 and 2; page 6, ¶ 1; page 8, ¶ 4; page 10, ¶ 1; and Figs. 1, 2, and 4), in which the driver engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged (*See* English Specification page 10, ¶¶ 1 and 2; and Figs. 1, 2, and 4).

Another embodiment, which is the subject of independent claim 56, is directed to an electromechanical lock cylinder, which cooperates with evaluation electronics to recognize an access authorization, comprising:

a cylindrical receptacle (*See* English Specification page 1, ¶ 1 and 2; page 3, ¶ 3), in which either a lock core, which is capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob, is mounted to rotate, in which the lock core or the knob shaft cooperate with a lock tab (*See* English Specification page 1, ¶¶ 1, 2, and 3), which operates, in particular, a bolt or latch of a door lock (*See* English Specification page1, ¶ 1), and, with a fitting key and/or access authorization, electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab (*See* English Specification page 1, ¶ 1), whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or to the knob shaft (*See* English Specification page 3, ¶ 2), wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it

(*See* English Specification page 4, ¶ 1), and also includes an eccentric, which moves a driver back and forth between the rest position and the operating position (*See* English Specification page 4, ¶¶ 3 and 4), in which it engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged (*See* English Specification page 10, ¶¶ 1 and 2; and Figs. 1, 2, and 4), wherein the eccentric has a pin arranged eccentrically around a motor shaft, which engages in a groove extending across the lift movement of the driver and perpendicular to the motor shaft, whose position and length are dimensioned, so that a rotary movement from the rest position into the operating position is only possible in one direction of rotation, and the rotational movement from the operating position into the rest position of the driver is only possible in the opposite direction of rotation (*See* English Specification page 5, ¶ 2).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 CFR §41.37(c)(1)(vi))

A. THE REJECTIONS UNDER 35 U.S.C. §102

a. Whether claims 19, 21, 22, 29, 35, 36, 37, 38, 39, 53-55, 62, and 68 are anticipated under 35 U.S.C. § 102(b) by EP 1 065 335 A1 ("Niemann").

B. THE REJECTIONS UNDER 35 U.S.C. §103

a. Whether claim 20 is unpatentable under 35 U.S.C. § 103(a) over Niemann in view of WO 02/088492 to Kornhofer et al. ("Kornhofer")

b. Whether claims 23, 24, 40, 41, 46, 52, 56, and 57 are unpatentable under 35 U.S.C. § 103(a) over Kornhofer in view of Niemann.

c. Whether claims 25-28, 42-45, and 58-61 are unpatentable under 35 U.S.C. § 103(a) over Niemann in view of U.S. Patent No. 6,865,916 to Goldman ("Goldman").

d. Whether claims 30-34, 47-51, and 63-67 are unpatentable under 35 U.S.C. § 103(a) over Niemann in view of U.S. Patent No. 5,010,750 to Buser et al. ("Buser").

VII. ARGUMENT

A. REJECTIONS UNDER 35 U.S.C. §102

In order for a rejection under 35 U.S.C. § 102 to be proper, each and every claim element must be found in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

a. Rejection of claims 19, 21, 22, 29, 35, 36, 37, 38, 39, 53-55, 62, and 68 under 35 U.S.C. § 102(b) by Niemann.

Niemann, however, fails to teach, suggest, or describe several features in the rejected claims. Accordingly, Appellants respectfully submit that the rejections under 35 U.S.C. § 102 should be reconsidered and withdrawn for at least the reasons set forth below.

Niemann is generally directed toward a lock cylinder with a cylinder core and an electromechanical "Gesperre" which is retractable from and insertable to the cylinder core. Appellants respectfully disagree with the Examiner's assertion that Niemann discloses an eccentric as claimed. In fact, Niemann does not appear to disclose any eccentric of any kind.

The coupling element (26) of Niemann is not an eccentric as claimed. Rather, the coupling pin (26, 27) moves axially, under action of spring (39), in the direction of arrow (31). *See* Niemann Fig. 3 and paragraph 33 as well as Figs. 4a and 4b showing that the coupling pin (26, 27) moves in direction of arrow 31 when the coupling pin (26, 27) is rotated appropriately.

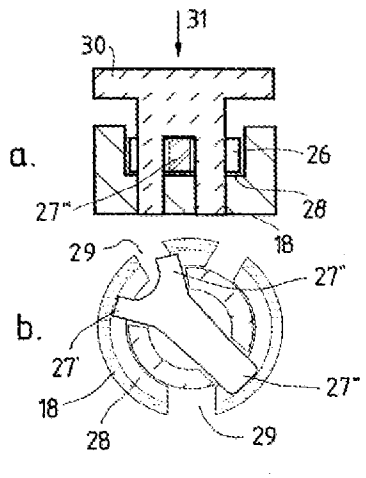


FIG.4

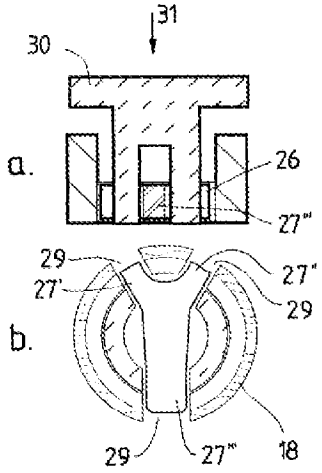


FIG.5

In other words, Niemann teaches that the coupling pin moves in a direction parallel to the long axis of the knob shaft or lock core. This is in direct contrast to the claimed eccentric which moves radially (*i.e.*, substantially perpendicular to a long axis of the knob shaft, lock core, or motor shaft).

The Examiner argues that the motion of the coupling pin (26, 27) in Niemann is substantially perpendicular to a long axis of the knob shaft or lock core by pointing to Fig. 4b. *See* Office Action dated September 2, 2009, page 5. However, a careful inspection of Fig. 4b and the description associated therewith clearly shows that there is never any motion of the coupling pin (26, 27) in a direction substantially perpendicular to a long axis of the knob shaft or lock core. Figs. 3-5, when viewed together, show that the coupling pin (26, 27) rotates about the long axis of the lock core and particularly rotates about the shaft (32). There is absolutely no movement of the pin (26, 27) in a direction perpendicular to the long axis of the knob shaft or lock core as claimed. According to the teaching of Niemann, the pin (26, 27) has two movements, one that is rotational about pin 32 and the other which results in the pin (26, 27) being moved into an operating position, that is the movement of the pin (26, 27) parallel to the long axis of the shaft (*i.e.,* in the direction of arrow (31)).

As will be discussed in more detail below, having a driver move in a direction substantially perpendicular to a long axis of the lock core or knob shaft to move into an operating position as opposed to parallel to the long axis satisfies the requirements of 35 U.S.C. § 102 and 35 U.S.C. § 103. In particular, if a driver moves parallel to the axis of

the knob shaft or lock core to move into an operating position, as is the case with the lock of Niemann, then attacks upon the lock can be easily made by applying a sufficient force (*e.g.*, hammer blow) on one end of the lock thereby causing the pin to slip into an operating position. Embodiments of the present invention, on the other hand, require that the driver be moved in a direction substantially perpendicular to a long axis of the knob shaft to move the driver into an operating position. This configuration of lock elements substantially precludes the blunt force-type of attacks to which the lock of Niemann and other prior art locks are susceptible.

Accordingly, in addition to not teaching an eccentric or an eccentric adapted to move a driver substantially perpendicular to the motor shaft, Niemann explicitly teaches away from such a feature. For at least these reasons, Niemann is insufficient to support a rejection of claims 19, 21, 22, 29, 35, 36, 37, 38, 39, 53-55, 62, and 68 under 35 U.S.C. § 102.

B. REJECTIONS UNDER 35 U.S.C. §103

When determining whether a claim is obvious under 35 U.S.C. § 103, an examiner must make "a searching comparison of the claimed invention – ***including all its limitations*** – with the teaching of the prior art." *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis added). Thus, "obviousness requires a suggestion of all limitations in a claim." *CFMT, Inc. v. Yieldup Intern. Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003) (citing *In re Royka*, 490 F.2d 981, 985 (CCPA 1974) (holding that to establish prima facie obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art)). Moreover, as the Supreme Court recently stated, "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Appellants respectfully submit that several features in the independent and dependent claims are not taught or suggested, either expressly or inherently, in any of the cited prior art references.

Also with respect to constructing obviousness rejections, an Examiner must take care to avoid hindsight reconstruction by combining just the right references in just the right way so as to achieve the result of the claimed invention. *Grain Processing Corp. v. American Maize Products Company*, 840 F.2d 902, 907 (Fed. Cir. 1988). One cannot

merely pick and choose individual elements from multiple references to recreate the invention. *Polaroid Corp. v. Eastman Kodak Co.*, 789 F.2d 1556, 1571 (Fed. Cir. 1986).

In particular, a reference that "teaches away" from a given combination may negate a motivation to modify the prior art to meet the claimed invention. *Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1308 (Fed. Cir. 2006). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *Ormco*, 463 F.3d at 1308 (citing *In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006)). As noted above and will be discussed in further detail below, Niemann, among other prior art references, teaches away from the claimed invention.

Accordingly, for at least the reasons below, Appellants submit that the rejections of the claims under 35 U.S.C. § 103 should be reconsidered and withdrawn.

a. Rejection of claim 20 under 35 U.S.C. § 103(a) over Niemann in view of Kornhofer.

All of the arguments presented above are hereby incorporated by their reference in their entirety.

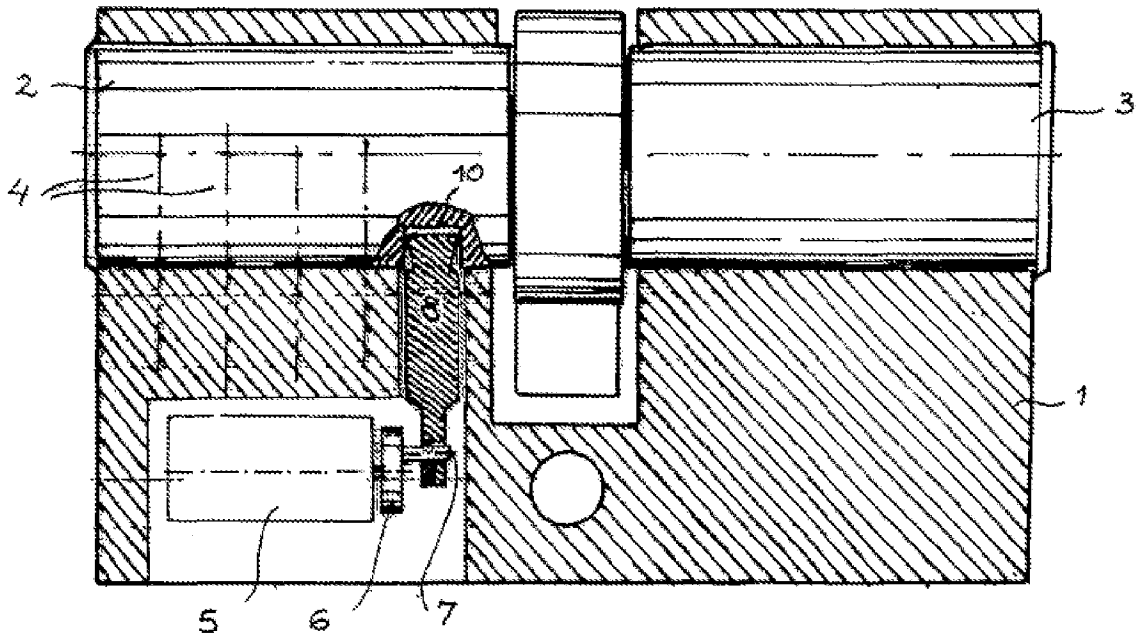
In addition to being dependent from an allowable independent claim, Appellants disagree with the assertion that either Niemann or Kornhofer can be relied upon to reject the pending claims as obvious. In particular, both Niemann and Kornhofer teach away from the claimed invention.

For instance, Niemann describes a pin (26, 27) that moves into an operating position under the force of a spring (39) and this movement occurs in a direction substantially parallel to the long axis of the knob shaft or lock core. This is a fundamental difference between the present invention and the cited prior art in that the present invention is resistant to various forms of attack (*e.g.*, a blunt force attack on the outside of the lock), whereas Niemann is susceptible to such an attack. Since Niemann teaches away from having a driver move into an operable position by moving in a direction substantially perpendicular to the long axis of the knob shaft, Niemann cannot be properly relied upon to reject the claims as obvious under 35 U.S.C. § 103.

Kornhofer also teaches away from the claimed invention for several reasons. First, Kornhofer teaches having the eccentric and coupling mechanism on the outside of

the lock core or knob shaft. *See* Kornhofer Fig. 1. This is in direct contrast to the claimed feature that requires the coupling element to be arranged on or in the lock core or on or in the knob shaft and rotate with it (*i.e.*, the lock core and/or knob shaft).

Kornhofer also teaches that the rest position of the coupling element precludes rotation of knob shaft. Only when a proper credential is presented to Kornhofer does the coupling element moved into an operating position, decouple from the recess, and allow the knob shaft to rotate. Fig. 1 of Kornhofer clearly depicts the coupling element in a rest position that precludes rotation of the knob shaft. Also, when the coupling element is moved from a rest position to an operating position, the coupling element is removed from recess (10), thereby enabling rotation of the knob shaft.



This fundamental difference between Kornhofer and the claimed invention also precludes Kornhofer from being able to provide a coupling element that is freely rotatable relative to the lock core or the knob shaft. The coupling mechanism disclosed by Kornhofer creates a connection between the lock housing and the lock core (or shaft). The lock core is permanently connected to the lock tab. *See* Kornhofer Fig. 1. Therefore, the lock core cannot rotate freely within the housing as claimed.

Not only does the location of coupling components in Kornhofer restrict the coupling element from being freely rotatable relative to the lock core or knob shaft, but it

also exposes the lock to tampering and other non-desirable activity, whereas the present invention protects such components by providing them within the lock core or knob shaft. Given that the primary purpose of most locks is security, any fundamental difference between the prior art and the claimed invention which has a significant bearing on security should be given more patentable consideration.

b. Rejection of claims 23, 24, 40, 41, 46, 52, 56, and 57 under 35 U.S.C. § 103(a) over Kornhofer in view of Niemann.

All of the arguments presented above are hereby incorporated by their reference in their entirety.

In addition to being dependent from an allowable independent claim, Appellants disagree with the modification of Kornhofer based on the teachings of Niemann to reject the pending claims. Appellants submit that one skilled in the art would not arrive at the claimed invention by modifying the lock of Kornhofer based on the teachings of Niemann.

The Examiner has not established a *prima facie* showing that one skilled in the art would arrive at the claimed invention based on the combination of Kornhofer and Niemann.

First, as discussed above, the lock of Korhnofer relies upon having a coupling element in a rest position to preclude rotation of the knob shaft. Upon presentation of an authorized credential, the drive motor (5) rotates the eccentric (6) which moves the pin (8) from recess (10). In this operating position, the pin (8) is not engaged with the recess (10) and the knob shaft is allowed to rotate. In other words, the fundamental teaching of Kornhofer is to restrict rotation of the knob shaft completely via the coupling element until an authorized credential is presented to the lock. In the absence of such an event, the knob shaft is restricted from movement.

The teachings of Niemann provide, in direct contrast to the fundamental teachings of Kornhofer, that the knob shaft rotates freely until an authorized credential is presented to the lock, at which point the pin (26, 27) is able to move in a direction substantially perpendicular to the knob shaft thereby engaging the knob shaft with the knob. Appellants respectfully submit that the combination of Niemann and Korhnoffer would not be obvious to one skilled in the art, especially given the fundamental differences between the two references. But for improper hindsight, there does not seem to be any

reason why one skilled in the art would modify Kornhoffer based on the teachings of Niemann.

Second, the Examiner has only cursorily asserted that some features are taught by Niemann and other features are taught by Kornhofer. The Examiner has articulated some reasoning with some rational underpinning to support the legal conclusion of obviousness. In particular the Examiner has not sufficiently shown how the teachings of one reference (*i.e.*, Kornhofer) would be altered based on the teachings of another reference (*i.e.*, Niemann). In other words, the Examiner has not provided sufficient rationale as to why one skilled in the art would modify Kornhofer to accommodate the teachings of Niemann consistent with the requirements set forth in *KSR Int'l v. Teleflex Inc*. Rather, the Examiner has only asserted that "since Niemann teaches the use of a blocking element for creating a splined connection and since it has been held that rearranging parts of an invention involves only routine skill in the art" the claimed invention is obvious over Kornhofer in view of Niemann. *See* Office Action dated September 2, 2009, page 9, ¶ 18.

Appellants respectfully disagree with this assertion.

In particular, Kornhofer describes a coupling element that is external to the lock core. Niemann describes a coupling element that relies on spring biasing to push the coupling element in a direction substantially parallel to the long axis of the lock core. Modification of the coupling element in Kornhofer based on the teachings of Niemann would likely only lead one skilled in the art to replace the external coupling element of Kornhofer with another external coupling element that moves in a direction parallel to the long axis of the lock core.

The inner workings of locks are extremely complicated. Especially with the security concerns associated with locks, the minor alteration of one component in a lock or the movement of one spring in a lock can significantly affect the operation of the lock. "The fact that all of the elements of a claimed invention were present in the prior art does not automatically render the invention obvious" *KSR,* 127 S. Ct. at 1742. In other words, Appellants respectfully submit that "rearranging parts of an invention" as applied to the lock arts is more than routine. Instead, movement of one component of a lock must be weighed against the affects of all other components in the lock. The decision to either place a coupling element within or outside of a lock core is a significant design consideration that is more than routine to those of skill in the lock arts. The decision to

have one coupling element engaged as a default position and another coupling element engaged only when an authorized credential is presented to the lock is another significant design consideration. The decision to have the coupling element move in a particular direction to engage a lock tab to a lock core is another significant design consideration. One decision usually impacts the other decisions and in more than a variety of ways. In other words, it is not necessarily "obvious to try" combining random teachings from various references in the lock arts, especially given the security concerns and mechanical intricacies present in the lock arts.

The Examiner has failed to articulate, consistent with the requirements set forth in *KSR Int'l v. Teleflex Inc.*, why one skilled in the art would think to alter the lock of Kornhofer so significantly so as to diverge from its original design. As noted above, the specific combination of providing a coupling element in a lock core or knob shaft that moves a driver in a direction substantially perpendicular to the long axis of the lock core or knob shaft provides security assurances beyond any of those provided by the prior art locks. Appellants respectfully submit that for at least these reasons the rejection of claims 23, 24, 40, 41, 46, 52, 56, and 57 under 35 U.S.C. § 103(a) over Kornhofer in view of Niemann is inappropriate and should be overturned.

c. Rejection of claims 25-28, 42-45, and 58-61 under 35 U.S.C. § 103(a) over Niemann in view Goldman.

All of the arguments presented above are hereby incorporated by their reference in their entirety.

In addition to the above, Appellants respectfully submit that certain features provided in claims 25-28, 42-45, and 58-61 are not taught in either Niemann or Goldman. Goldman describes a locking cylinder which can be operated with an electromagnetic device. There is neither a motor nor an eccentric disclosed in Goldman. The cap 64 (*see* Fig. 3A of Goldman) is not an electromagnetically driven eccentric as stated by the Examiner. The driving means for the cap 64 includes an electromagnetic means and not a motor that turns an eccentric. This particular fact leaves the lock of Goldman susceptible to attacks whereby an attacker introduces an appropriate magnet to the knob of the lock. This may result in the pin being driven into the engaged position without actually presenting an appropriate credential/key.

Additionally, this cap 64 appears to be a plate which can be to-and-from movable in the axial direction of the locking core in order to effect an engaging position of the clutch. S*ee* Goldman column 2, lines 39-43 and Figs. 2 and 3A. Furthermore, the driving means of Goldman are located within the knob and not within or on the locking core or knob shaft respectively. This means that if a proper axial force is applied to the knob (*e.g.*, via a hammer or the like), the knob may be engaged and illicit access may be granted to a secure area. The claimed invention, on the other hand, provides that the electromechanical drive for the locking pin are in the lock core or the knob shaft.

Yet another difference is that the lock tab 20 of Goldman is integral to one part of the locking core. It cannot rotate independently of the knob shaft or lock core as claimed in the currently pending independent claims.

It appears as though this particular prior art document is identical and has the same drawbacks of the prior art patent discussed at page 2 of the English Specification. Embodiments of the present invention address such drawbacks.

In view of the above, Appellants respectfully submit that neither Niemann nor Goldman teach that the driver of the coupling element includes a slide, whose free end is guided in a sleeve and that free end of the sleeve enters the recess of the lock tab or rotary sleeve and a compression spring is arranged in an interior of the sleeve and the sleeve cooperates with a free end of an eccentric pin. *See* Claims 25, 42, and 58. Niemann and Goldman also fail to teach that the depth of the recess is dimension so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension. *See* Claims 26, 28, 43, 45, 59, and 61. Niemann and Goldman also fail to teach that the rotary sleeve has a stop against which a thickened end of the slide stops. *See* Claims 27, 44, and 60. Appellants respectfully submit that for at least these reasons the rejection of claims 25-28, 42-45, and 58-61 under 35 U.S.C. § 103(a) over Niemann in view of Goldman is inappropriate and should be overturned.

d. <u>Rejection of claims 30-34, 47-51, and 63-67 under 35 U.S.C. § 103(a) over Niemann in view of Buser.</u>

All of the arguments presented above are hereby incorporated by their reference in their entirety.

In addition to the above, Appellants respectfully submit that certain features provided in claims 30-34, 47-51, and 63-67 are not taught in either Niemann or Buser.

Buser discloses a locking cylinder with an electromagnetic locking mechanism. The driving means are located in the housing of the cylinder and not in the lock core or knob shaft respectively. Further, there is no eccentric provided in Buser. Buser is primarily relied upon to show that the use of sensors in locks are known. Buser, however, does not overcome the other shortcomings of Niemann in that Buser does not teach, suggest, or make obvious providing an electromechanically driven locking pin that resides on or in the lock core or the knob shaft. Also, Buser does not show that the lock tab can rotate independently of the knob shaft or lock core. Also, Buser does not show that the coupling element includes an eccentric which moves a driver perpendicular to the long axis of the knob shaft or lock core (or motor shaft).

Notwithstanding all of these shortcomings, the Examiner has further failed to adequately show how one skilled in the art would modify Niemann with the teachings of Buser to arrive at the features of claims 30-34, 47-51, and 63-67. As discussed above, the inner workings of locks are extremely complicated and more than cursory statements regarding the reconfiguration of known elements is required to establish a *prima facie* case of obviousness.

Based upon the foregoing, Appellants respectfully request that the Board reverse the Examiner's rejections of pending Claims 19-68 and requests that the board pass the above-identified patent application to issuance.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

19. An electromechanical lock cylinder that cooperates with evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles, at least one of which comprises either a lock core, capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob, wherein the lock core or knob shaft cooperates with a lock tab, which operates, in particular, a bolt or a latch of a door lock, and, with a fitting key or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab, whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or the knob shaft, wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it, and includes an eccentric that is rotatable between a first and second position such that when the eccentric is in the first position, a driver in communication therewith is in a rest position, and when the eccentric is rotated from the first position to the second position, the driver is moved in a direction substantially perpendicular to a long axis of the knob shaft or lock core into an operating position, in which the driver engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged.

20. The electromechanical lock cylinder according to Claim 19, wherein a continuous lock core or continuous knob shaft is present, which extends from one side of the housing to the opposite side and is capable of being operated from both sides by a key or rotated by a knob.

21. The electromechanical lock cylinder according to Claim 19, wherein the rest position and/or the operating position of the driver lie beyond the corresponding dead centers of the eccentric by a predeterminable angle of rotation.

22. The electromechanical lock cylinder according to Claim 21, wherein the angle of rotation is 10° to 30° beyond the corresponding dead center.

23. An electromechanical lock cylinder that cooperates with evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles, at least one of which comprises either a lock core, which is capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob, wherein the lock core or knob shaft cooperates with a lock tab, which operates, in particular, a bolt or a latch of a door lock, and, with a fitting key or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab, whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or the knob shaft, wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it, and includes an eccentric, which moves a driver included in the blocking or coupling element back and forth between the rest position and the operating position, in which it engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged, wherein the eccentric has a pin arranged eccentrically around a motor shaft, which engages in a groove extending across a lift movement of the driver and perpendicular to the motor shaft, whose position and length are dimensioned, so that a rotary movement from the rest position into the operating position is only

possible in one direction of rotation, and the rotational movement from the operating position into the rest position of the driver is only possible in the opposite direction of rotation.

24. The electromechanical lock cylinder according to Claim 23, wherein the length and position of the groove are chosen, in order to permit further rotation of the eccentric from the rest position of the operating position of the driver beyond the dead center by the angle of rotation and vice versa.

25. The electromechanical lock cylinder according to Claim 23, wherein the driver includes a slide, whose free end is guided in a sleeve, wherein a free end of the sleeve enters the recess of the lock tab or rotary sleeve, wherein a compression spring is arranged in an interior of the sleeve, and wherein the sleeve cooperates with a free end of the pin via the slide.

26. The electromechanical lock cylinder according to Claim 25, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

27. The electromechanical lock cylinder according to Claim 25, wherein the rotary sleeve, on its side opposite the free end, has a stop, against which a thickened end of the slide stops.

28. The electromechanical lock cylinder according to Claim 27, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

29. The electromechanical lock cylinder according to Claim 19, wherein the driver, in the rest position, is held by spring force.

30. The electromechanical lock cylinder according to Claim 19, wherein recording devices are present to record the position of the coupling element.

31. The electromechanical lock cylinder according to Claim 30, wherein the recording devices generate at least one signal, and preferably a sequence of signals, in order to move the coupling element into the rest position, as long as the coupling element is in the operating position or still not in the rest position, and if the rest position is to be assumed.

32. The electromechanical lock cylinder according to Claim 30, wherein recording devices include at least one hall sensor and/or at least one capacitive or conductive sensor or a switch, which cooperates with a moving element of the coupling element.

33. The electromechanical lock cylinder according to Claim 32, wherein the recording devices cooperate with the driver.

34. The electromechanical lock cylinder according to Claim 32, wherein the recording devices record the position of the eccentric or the motor shaft.

35. The electromechanical lock cylinder according to Claim 19, wherein the blocking or coupling element includes an electromagnetic or electric motor drive.

36. An electromechanical lock cylinder, which cooperates with an evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles in which at least one of a lock core and/or knob shaft operatively associated with the cylindrical receptacles cooperate with a lock tab, and especially operate a bolt or latch of a door lock, and with a fitting key and/or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key and/or knob and the lock tab, whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core and the knob shaft, wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it, and also includes an eccentric that is rotatable between a first and second position such that when the eccentric is in the first position, a driver in communication therewith is in a rest position, and when the eccentric is rotated from the first position to the second position, the driver is moved in a direction substantially perpendicular to a long axis of either the lock core or knob shaft into an operating position, in which the driver engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged.

37. The electromechanical lock cylinder according to Claim 36, wherein the two opposite cylindrical receptacles comprise a lock core as one cylindrical receptacle and a knob shaft as the other cylindrical receptacle, and wherein the lock core and knob shaft are connected to rotate in unison with each other or are made in one piece.

38. The electromechanical lock cylinder according to Claim 36, wherein the rest position and/or the operating position of the driver lie beyond the corresponding dead centers of the eccentric by a predeterminable angle of rotation.

39. The electromechanical lock cylinder according to Claim 38, wherein the angle of rotation is 10° to 30° beyond the corresponding dead center.

40. An electromechanical lock cylinder, which cooperates with an evaluation electronics to recognize access authorization, comprising:

two opposite cylindrical receptacles, in which, on one side of the housing, a lock core, which is capable of being operated by a key, and, on the opposite side, a knob shaft, which is connected to rotate in unison with a knob, are mounted to rotate, in which the lock core and/or knob shaft cooperate with a lock tab, and especially operate a bolt or latch of a door lock, and with a fitting key and/or access authorization, an electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key and/or knob and the lock tab, whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core and the knob shaft, wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it, and also includes an eccentric, which moves a driver back and forth between the rest position and the operating position, in which it engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged, wherein the eccentric has a pin arranged eccentrically around a motor shaft, which engages in a groove extending across the lift movement of the driver and perpendicular to the motor shaft, whose position and length are dimensioned, so that a rotary movement from the rest position into the operating position is only possible in one direction of rotation, and the rotational movement from the operating position into the rest position of the driver is only possible in the opposite direction of rotation.

41. The electromechanical lock cylinder according to Claim 40, wherein the length and position of the groove are chosen, in order to permit further rotation of the eccentric from the rest position of the operating position of the driver beyond the dead center by the angle of rotation and vice versa.

42. The electromechanical lock cylinder according to Claim 40, wherein the driver includes a slide, whose free end is guided in a sleeve, wherein a free end of the sleeve enters the recess of the lock tab or rotary sleeve, wherein a compression spring is arranged in an interior of the sleeve, and wherein the sleeve cooperates with a free end of the pin via the slide.

43. The electromechanical lock cylinder according to Claim 42, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

44. The electromechanical lock cylinder according to Claim 42, wherein the rotary sleeve, on its side opposite the free end, has a stop, against which a thickened end of the slide stops.

45. The electromechanical lock cylinder according to Claim 44, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

45. The electromechanical lock cylinder according to Claim 44, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

46. The electromechanical lock cylinder according to Claim 36, wherein the driver, in the rest position, is held by spring force.

47. The electromechanical lock cylinder according to Claim 36, wherein recording devices are present to record the position of the coupling element.

48. The electromechanical lock cylinder according to Claim 47, wherein the recording devices generate at least one signal, and preferably a sequence of signals, in order to move the coupling element into the rest position, as long as the coupling element is in the operating position or still not in the rest position, and if the rest position is to be assumed.

49. The electromechanical lock cylinder according to Claim 47, wherein recording devices include at least one hall sensor and/or at least one capacitive or conductive sensor or a switch, which cooperates with a moving element of the coupling element.

50. The electromechanical lock cylinder according to Claim 49, wherein the recording devices cooperate with the driver.

51. The electromechanical lock cylinder according to Claim 49, wherein the recording devices record the position of the eccentric or the motor shaft.

52. The electromechanical lock cylinder according to Claim 36, wherein the blocking or coupling element includes an electromagnetic or electric motor drive.

53. An electromechanical lock cylinder, which cooperates with evaluation electronics to recognize an access authorization, comprising:

a cylindrical receptacle, in which either a lock core, which is capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob, is mounted to rotate, in which the lock core or the knob shaft cooperate with a lock tab, which operates, in particular, a bolt or latch of a door lock, and, with a fitting key and/or access authorization, electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab, whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or to the knob shaft, wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it, and also includes an eccentric that is rotatable between a first and second position such that when the eccentric is in the first position, a driver in communication therewith is in a rest position, and when the eccentric is rotated from the first position to the second position, the driver is moved in a direction substantially perpendicular to a long axis of the lock core or knob shaft into an operating position, in which the driver engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged.

54. The electromechanical lock cylinder according to Claim 53, wherein the rest position and/or the operating position of the driver lie beyond the corresponding dead centers of the eccentric by a predeterminable angle of rotation.

55. The electromechanical lock cylinder according to Claim 54, wherein the angle of rotation is 10° to 30° beyond the corresponding dead center.

56. An electromechanical lock cylinder, which cooperates with evaluation electronics to recognize an access authorization, comprising:

a cylindrical receptacle, in which either a lock core, which is capable of being operated by a key, or a knob shaft, which is connected to rotate in unison with a knob, is mounted to rotate, in which the lock core or the knob shaft cooperate with a lock tab, which operates, in particular, a bolt or latch of a door lock, and, with a fitting key and/or access authorization, electromechanically driven blocking or coupling element is moved from a rest position to an operating position and produces a splined connection between the key or knob and the lock tab, whereas the lock tab, in the rest position of the blocking or coupling element, is freely rotatable relative to the lock core or to the knob shaft, wherein the blocking or coupling element is arranged on or in the lock core or on or in the knob shaft and rotates with it, and also includes an eccentric, which moves a driver back and forth between the rest position and the operating position, in which it engages in a recess of the lock tab or a rotary sleeve, on which the lock tab is arranged, wherein the eccentric has a pin arranged eccentrically around a motor shaft, which engages in a groove extending across the lift movement of the driver and perpendicular to the motor shaft, whose position and length are dimensioned, so that a rotary movement from the rest position into the operating position is only possible in one direction of rotation, and the rotational movement from the operating position into the rest position of the driver is only possible in the opposite direction of rotation.

57. The electromechanical lock cylinder according to Claim 56, wherein the length and position of the groove are chosen, in order to permit further rotation of the eccentric from the rest position of the operating position of the driver beyond the dead center by the angle of rotation and vice versa.

58. The electromechanical lock cylinder according to Claim 56, wherein the driver includes a slide, whose free end is guided in a sleeve, wherein a free end of the sleeve enters the recess of the lock tab or rotary sleeve, wherein a compression spring is arranged in an interior of the sleeve, and wherein the sleeve cooperates with a free end of the pin via the slide.

59. The electromechanical lock cylinder according to Claim 58, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

60. The electromechanical lock cylinder according to Claim 58, wherein the rotary sleeve, on its side opposite the free end, has a stop, against which a thickened end of the slide stops.

61. The electromechanical lock cylinder according to Claim 60, wherein the depth of the recess of the lock tab or the rotary sleeve is dimensioned, so that when the driver is engaged, the compression spring in the rotary sleeve is still under tension.

62. The electromechanical lock cylinder according to Claim 53, wherein the driver, in the rest position, is held by spring force.

63. The electromechanical lock cylinder according to Claim 53, wherein recording devices are present to record the position of the coupling element.

64. The electromechanical lock cylinder according to Claim 63, wherein the recording devices generate at least one signal, and preferably a sequence of signals, in order to

move the coupling element into the rest position, as long as the coupling element is in the operating position or still not in the rest position, and if the rest position is to be assumed.

65. The electromechanical lock cylinder according to Claim 63, wherein recording devices include at least one hall sensor and/or at least one capacitive or conductive sensor or a switch, which cooperates with a moving element of the coupling element.

66. The electromechanical lock cylinder according to Claim 65, wherein the recording devices cooperate with the driver.

67. The electromechanical lock cylinder according to Claim 65, wherein the recording devices record the position of the eccentric or the motor shaft.

68. The electromechanical lock cylinder according to Claim 53, wherein the blocking or coupling element includes an electromagnetic or electric motor drive.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.